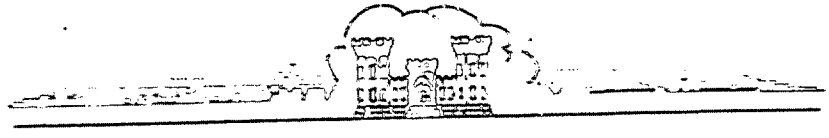
SMALL NAVIGATION PROJECT

PIG ISLAND GUT

BEALS, MAINE

DETAILED PROJECT REPORT



U.S. ARMY ENGINEER DIVISION, NEW ENGLAND
CORPS OF ENGINEERS WALTHAM, MASS.

APRIL 1964

U. S. ARMY ENGINEER DIVISION. NEW ENGLAND
CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM. MASS. 02154

ADDRESS REPLY TO
DIVISION ENGINEER

REFER TO FILE NO.

NEDED-R

17 April 1964

SUBJECT: Detailed Project Report for Small Navigation Project, Pig Island Gut, Beals, Maine

TO: Chief of Engineers
ATTN: ENGCW-PD
Washington, D. C.

1. In accordance with EM 1165-2-107, there is submitted for review and comment an advance draft of the subject report.

2. Responsible officials have indicated the willingness and ability of the Town of Beals and the State of Maine to meet the requirements of local cooperation. Formal assurances of participation will be obtained from the State and Town during preparation of final designs for the project.

3. The plans and specifications will be prepared in accordance with the Detailed Project Report as approved. Funds in the amount of $5,000 for preparation of the plans and specifications and $169,000 for the Federal cost of construction will be required.

4. Formal comments of the Governor of Maine will be requested after approval of the advance draft.

Incl (10 cys)
as

P. C. HYZER
Brigadier General, USA
Division Engineer

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U. S. ARMY ENGINEER DIVISION, NEW ENGLAND
CORPS OF ENGINEERS
424 Trapelo Road
Waltham, Mass.

NEDED-R 17 April 1964

DETAILED PROJECT REPORT
SMALL NAVIGATION PROJECT
PIG ISLAND GUT, BEALS, MAINE

PERTINENT DATA

1. Purpose. - To provide channels and anchorage of sufficient depth to increase operating efficiency and reduce damages to the commercial fishing fleet in the Beals Island area, with particular reference to Pig Island Gut.

2. Location. - Off the Maine seacoast southeast of Jonesport, about 168 miles northeast of Portland, Maine and bounded to the north by Pig Island and to the South by Great Wass Island.

3. Existing Project. - There is no Federal Project at Pig Island Gut. There are two existing projects in the Beals Island area; an anchorage basin of 11 acres, 10 feet deep at Beals Harbor on the northwest side of Beals Island, and a channel and protecting breakwater at the eastern end of Moosabec Reach.

4. Improvement Desired. - A channel 10 feet deep and 100 feet wide from Eastern Bay to Alley Bay through Pig Island Gut, with anchorage 6 feet to 8 feet deep for 40-50 lobster boats and 10-20 seiners and draggers.

5. Recommended Improvement. - A channel 60 feet wide, 6 feet deep throughout from Eastern Bay to Alley Bay through Pig Island Gut and an anchorage of 5 1/2 acres, 6 feet deep within the Gut.

6. Benefits. - Benefits are expected to accrue to the commercial fishing fleet in the amount of $28,060. No benefits would be realized by recreational craft.

7. Benefit Cost Ratio. - 2.2 to 1.0

8. Requirements of Local Cooperation:

a. Provide without cost to the United States all lands, easements, and rights-of-way for the construction and maintenance of the

project, when and as required.

b. Hold and save the United States free from damages that may result from the construction and maintenance of the project.

c. Construct and maintain an adequate public landing with commensurate berth, open to all on equal terms.

d. Make a cash contribution for all costs in excess of $200,000 to insure that Federal expenditures result in a complete project.

AUTHORITY

9. This Detailed Project Report is submitted pursuant to authority contained in Section 107 of the River and Harbor Act of 1960. Specific authority was provided by 1st Indorsement dated 19 April 1963 from the Chief of Engineers in a reply to a letter dated 14 February 1963 from the Division Engineer, New England Division, Subject: "Section 107 Investigation - Pig Island Gut, Beals, Maine."

PURPOSE AND EXTENT OF STUDY

10. A detailed hydrographic survey consisting of soundings and probings was made to determine the character and volume of material to be dredged. Available maps, commercial statistics and other data pertaining to the area were studied. A public hearing was held at Beals Island, Maine on 21 August 1962, to enable local interests to present their views and information obtained therefrom is described under "Improvements Desired." Subsequent to the hearing, local Government officials and other local interests were consulted. Local, State and other Federal agencies were consulted during the study and their views are included in this report.

DESCRIPTION

11. Pig Island Gut is located between Pig Island and Great Wass Island in the Town of Beals, Maine, 168 miles northeasterly of Portland, Maine. The nearest adjacent waterway is Moosabec Reach, a channel 6 miles in length running in an east-west direction south of Jonesport, Maine.

12. The Gut is a natural shallow anchorage of 25 acres, connected by narrow inlets to Alley Bay and Eastern Bay on the east and west sides respectively. Depths in the channel from Eastern Bay vary from 7 to 11

feet at mean low water. Inside the Gut, controlling depths range from 2 to 4 feet with bottom material consisting essentially of mud and sand. Outcrops of ledge rock were found at the east end of the Gut at and below mean low water. The outer channel to Alley Bay slopes uniformly from 5 feet to 8 feet and thence to the deeper Moosabec Reach.

13. A commercial fleet of lobster boats, seiners and other smaller craft use the Gut at high tidal stages to save time and to avoid the heavy seas usually encountered in the alternate route around Little Sheep Island. Few recreational craft are based in the Jonesport-Beal Island area.

14. The Gut is a natural anchorage protected from storms from the north and south. The mean range of tide is 11.5 feet. The locality is shown on the Coast and Geodetic Survey Charts, Nos. 304 and 1201, and on the map accompanying this report.[1]

TRIBUTARY AREA

15. The area immediately tributary to Pig Island Gut consists of the Towns of Beals, Jonesport, and West Jonesport all of Washington County. In the 10 year period 1950-1960, the combined population of Jonesport and West Jonesport decreased 9.6 percent from 3,213 to 2,902. The population of Washington County as a whole decreased 6.5 percent from 35,187 to 32,908 in the same period while that of the Town of Beals increased 7.8 percent from 590 to 640. Washington County has been declared an area of persistent and substantial unemployment by the Area Redevelopment Administration.

16. There are no rail connections to the tributary area. The nearest railroad station is at Columbia Falls, about 12 miles from Jonesport. Supplies are shipped by truck over U. S. Route 1 and State Route 187 or by rail to Columbia Falls and then trucked to the Jonesport-Beals area.

BRIDGES AFFECTING NAVIGATION

17. There are no bridges in the portion of the waterway under consideration in this report. There is a connecting bridge over Moosabec Reach between Beals Island and the mainland. Horizontal and vertical bridge clearances of 75 and 39 feet, respectively, were approved by the Secretary of the Army.

PRIOR REPORTS

18. There are no prior reports on Pig Island Gut, Beals, Maine.

EXISTING CORPS OF ENGINEERS PROJECTS

19. There are two existing Federal Projects in the Beals Island area, a 10-foot anchorage northwest of Beals Island and a channel and protecting breakwater at the eastern end of Moosabec Reach. Federal expenditures for the anchorage at Beals Harbor to date total $185,000, all for new work completed in 1957. The existing project at Moosabec Reach was completed in 1899 and was maintained last in 1929.

20. The Town of Beals has complied with the requirements of local cooperation for the existing project.

OTHER IMPROVEMENTS

21. Local interests have made no improvements for the benefit of navigation in the Pig Island Gut area.

TERMINAL AND TRANSFER FACILITIES

22. There are several privately owned wharves in Beals Harbor which are used exclusively by lobstermen and fishermen. A short distance to the east of the harbor in Moosabec Reach are located a public and a private wharf. There are located on Beals Island, three sardine factories, one sea moss plant and one pearl essence plant (currently not operating) on the mainland side of Moosabec Reach. Local interests have stated that there is a possibility of a freezer plant being constructed on the shore of the Gut if the recommended improvement is constructed. There are no commercial landing facilities in the vicinity of Pig Island although there are several small landings on Great Wass Island.

IMPROVEMENTS DESIRED

23. A public hearing was held at Beals Island, Maine on 21 August 1962 to determine the nature and extent of improvements desired by local interests. The hearing was attended by about 82 people including representatives of the State and local governments, fishing industry, business interests and interested citizens.

24. Local interests expressed a desire for a channel 10 feet deep and 100 feet wide from Alley Bay to Eastern Bay through Pig Island Gut and an anchorage area of adequate depth for 40-50 lobster boats and 10-20 seiners. Presently, the Gut is used by 60 fishing and lobster vessels from the Alley Bay area and seiners from the mainland which use the shorter route during periods of high tides. Boat operators find this route from Moosabec Reach to Eastern Bay preferable to going around Little Sheep Island where heavy seas are generally encountered. Often the fishermen will attempt the Gut at lower tides, sometimes with costly results. At the public hearing, many fishermen complained of damage to vessels running aground at low tidal ranges. Local interests stated that the proposed improvement would provide a shorter and safer navigation route, eliminate damage to vessels, increase the fishing catch, and eliminate the grounding of anchored boats at low tide.

EXISTING AND PROSPECTIVE COMMERCE

25. The entire economy of this area is based on its commercial fisheries. Because of its location, which is relatively remote from the resort centers of the State, the Beals-Jonesport region does not receive any appreciable income from tourist business. The proposed project, therefore, would provide benefits which in the foreseeable future would be confined to the commercial fishing industry. There are no published commercial statistics for the area. Fish and shellfish landings are reported by county by the U. S. Fish and Wildlife Service, in cooperation with the State of Maine, Department of Sea and Shore Fisheries. Fish resource interests state that in recent years, the total lobster catch has averaged well over one million pounds valued at more than $500,000. During 1960, area lobstermen landed 1,197,907 pounds of lobster for which they received $551,037, and in 1961 the catch was 1,014,800 pounds worth $527,696 to the fishermen. Of the total lobster catch in the area, lobstermen in the Alley Bay area caught an average of 160,000 lbs. per year. If the proposed project is constructed, local interests anticipate that 10 additional lobster boats would be added to the existing fleet. This, coupled with the fact that more time would be available for lobstering because of a shorter, safer route to the lobster areas, would result in 35 percent increase in the catch.

26. Other fishery products caught by Alley Bay fishermen in 1961 were marine worms valued at $60,000, soft shell clams which in the

past 10 years have brought diggers some $600,000, and Irish Moss worth $27,000 per year. Finally, it is reported that there is an important potential groundfish industry in the area which, because of current market conditions, is not being fully developed. While this potential is not currently being realized, groundfish production in recent years has varied from 47,770 pounds worth $2,868 in 1959, to 101,210 pounds worth $6,073 in 1961.

VESSEL TRAFFIC

27. There are no recorded statistics on vessel trips in the waterway. In the Jonesport-Beals Island area, there are 300 registered and licensed fishermen engaged in lobstering, herring fishing, clam digging and worm digging. At present, some 60 boats are based in the Alley Bay area with a fleet value of $100,000. This total includes 34 standard lobster vessels and 26 of the smaller dory-size boats. The lobster vessels, which vary from 24 to 40 feet in length and draw up to 3 1/2 feet of water, average around 320 round-trips to Eastern Bay during each lobster season. The remaining smaller craft travel to Eastern Bay to a lesser degree, since part of their catch is found in the Alley Bay area. The U. S. Coast Guard makes a daily round trip from the mainland to Moose Peak Light on Mistake Island.

DIFFICULTIES ATTENDING NAVIGATION

28. When tides permit, the lobster and fishing fleet based at Alley Bay, use the shorter route through Pig Island Gut to get to the fishing grounds in and around Eastern Bay. During low water, the boats are forced to take a longer route around Little Sheep Island which exposes them to the full sweep of east winds and waves. At the public hearing, fishermen stated that in attempting to pass through the Gut during periods of low water, severe damage to their vessels is experienced in broken shafts, bent wheels, and stove in hulls. It is estimated that the damage sustained by boats running aground in the Gut averages $1,000 annually.

29. At present, the only anchorage near Alley Bay is the Federal project at Beals Harbor at the northwest end of Beals Island. This anchorage is filled to capacity requiring the remaining boats to moor in exposed areas where they are subject to severe storms and have to be constantly watched to prevent their being damaged. This is especially

true during the winter when large sheets of ice are driven by winds against the vessels. Often, boats moored inside the Gut are trapped by ice and are disabled until freed by the Coast Guard vessel.

WATER POWER AND OTHER SPECIAL SUBJECTS

30. There are no problems pertaining to water power, flood control, pollution or related subjects. The improvement contemplated would have no adverse effect on fish and wildlife.

PLAN OF IMPROVEMENT

31. The plan of improvement desired by local interests consists of a channel 10 feet deep, and 100 feet wide from Alley Bay to Eastern Bay through Pig Alley Gut and an anchorage area of adequate depth for 40-50 lobster boats and 10-20 seiners.

32. Consideration was given to several combinations of alignments and anchorages of 10, 8 and 6 foot depths. The majority of fishing vessels that are expected to use the waterway draw less than 5 feet of water. Although there are some deeper draft herring carriers that might use a deeper channel if it were available, the benefits that would be realized by these vessels would not be sufficient to justify the cost of a deeper channel or anchorage. Based on field investigations of existing bottom depths and type of materials to be encountered the desired plan of improvement and various alignments of channel and sizes of anchorage areas considered would involve removal of substantial amounts of ledge rock and other materials. Therefore, the plan selected as most nearly accomplishing the desired purpose and being the most economical would provide (a) a channel 60 feet in width and 6 feet in depth through Pig Island Gut from Moosabec Reach to Eastern Bay and (b) a 5 1/2 acre anchorage 6 feet deep inside the Gut. This improvement is shown on the map accompanying this report.

33. Local interests have indicated that this plan of improvement would meet their needs and desires and that the associate requirements of local cooperation would be met.

34. The project as proposed would involve the removal and disposal of ledge rock and ordinary materials. In view of the diversity of the materials to be removed, and the relatively small scope of project operations, it is considered that the most practical and economical method

of operation for accomplishing the work would be by means of a bucket dredge with disposal of materials at sea. The U. S. Fish and Wildlife Service has advised that disposal in an approved dumping ground in off-shore deep water would not damage the fishing resource. Inshore dumping areas would have to be selected carefully in cooperation with the Maine Sea and Shore Fisheries and the Inland Fisheries and Game Agencies. The nearest off-shore deep water area susceptible for dumping operations is about 3 1/2 miles from the project.

SHORELINE CHANGES

35. The proposed dredging in Pig Island Gut would have no adverse effect on the shorelines on either shore of the Gut.

REQUIRED AIDS TO NAVIGATION

36. The Commander, First Coast Guard District, has been consulted and advised that navigation aids will be required. The cost of providing the necessary aids to navigation is estimated to be $1,100, with $160 annually for maintenance.

ESTIMATE OF FIRST COSTS

37. An estimate of the first cost of construction of the selected plan of improvement has been made on the basis of soundings and probings of the hydrographic surveys made in July and October 1963. Federal construction would consist of dredging the channel and anchorage and excavation of ledge at the east end of the Gut. The material to be dredged will be primarily mud and sand. Ledge rock will be required to be drilled and blasted to provide a clear channel to project depth and width through the Gut. Dredging quantities are in terms of in-place measurement and provide for removal to a depth of six feet below mean low water, plus an allowance of one-foot over depth with side slopes one vertical to three horizontal. Ledge removal will be to 7 feet mean low water with 1-foot overdepth and 1 on 1 side slopes. Costs are based on the removal of the dredged material by bucket dredge with disposal in the nearest off-shore dumping ground about 3 1/2 miles distant. Unit prices used are based on those prevailing in January 1964 for similar work.

38. The estimated cost of the proposed project is broken down as follows:

PROJECT COST ESTIMATE

Cost Account Number		Cost Estimate (Jan. 1964)
09	CHANNELS	
	(channel-60 ft. wide, 6 ft. deep & 5.5 acres of anchorage, 6 ft. deep)	
	Ordinary Materials-83,000 c.y. @ $1.45/c.y.	$120,000
	Ledge rock-325 c.y. @$45	15,000
		$135,000
	Contingencies 15%	20,000
		$155,000
30	Engineering and Design	21,000*
31	Supervision & Administration	14,000
	Total Cost (Corps of Engineers Funds)	$190,000
	Aids to Navigation (Coast Guard)	1,100
	Total Project Costs (Federal)	$191,100
	Public Landing (Non-Federal Cost)	5,000
	Total Federal and Non-Federal Costs	$196,100

*Includes $16,000 expended for project studies.

SUMMARY OF ESTIMATE COST

Federal Cost	
Corps of Engineers	$190,000
Coast Guard	1,100
Total	$191,100
Non-Federal Cost	
Public landing & Berth (self-liquidating)	5,000
Total Federal and Non-Federal Cost	$196,100

ESTIMATE OF ANNUAL CHARGES

39. The annual charges for the improvements have been computed on the basis of a 50-year project life with a Federal interest rate of 3 percent. Maintenance costs are based on an average annual shoaling rate of 3,000 cubic yards for channels and anchorage.

40. The berth and public landing costs are considered self-liquidating and are not included in the estimate of annual charges.

ANNUAL CHARGES

Channel & Anchorage

Interest & Amortization (191,100) (.03887)	$ 7,400
Maintenance Dredging (3,000 c.y.) (1.75)	5,200
Maintenance, Navigation aids	160
Total Project Annual Charges	$12,760

ESTIMATE OF BENEFITS

41. Significant benefits are expected to accrue to the existing and prospective commercial fleet as a result of the proposed channel and anchorage improvements. These benefits would result from (a) elimination of tidal delays (b) increased fishing catch, and (c) reduction of boat damage. Only incidental benefits would be realized by recreational craft since few visit the waters of the Jonesport-Beals area, and it is doubtful, due to its remote location from tourist and population centers, that any would be attracted solely through improvement of Pig Island Gut.

42. The Jonesport-Beals region is one of Maine's most productive commercial fishing areas. In 1960, lobstermen landed over 1 million pounds of lobsters valued at $500,000 wholesale. Alley Bay lobstermen accounted for 160,000 pounds of this harvest. The Maine Department of Sea and Shore Fisheries in cooperation with local interests anticipate that

with the completion of the proposed project, 10 new lobster boats would be added to the existing fleet. They also anticipate that due to this increase and the added time available for fishing, a production increase of 56,000 pounds annually in the lobster catch would result. The United State Fish and Wildlife Service in its report on the project concurs in the anticipated increase in lobster landings. The average lobster catch per boat by the present fleet is determined to be 4,700 lbs. With elimination of tidal delays resulting in added time for fishing, it is estimated that the present fleet of 34 boats could increase its average production by 8% or about 400 pounds for a total average catch of 5,100 pounds. This would account for (34 x 400) or 13,600 pounds of the total anticipated increase. The remaining increase in lobster catch of (56,000 - 13,600) 42,400 lbs. would be landed by new boats. Based on the average annual catch of 5,100 pounds, 8 new boats would be required to be added to the fleet. The proposed project is considered adequate to provide for the prospective increase in the lobster fleet. The benefit to the existing and prospective lobster fleet is considered to be 40% of the gross value of the increase in lobster production. The Fish and Wildlife interest report that the value of the increased landings is $28,000. The net benefit from the project due to increased lobster catch is determined to be ($28,000 x 0.4) $11,200.

43. Because of the exposure in Moosabec Reach and the route around Little Sheep Island, fishermen prefer and use the route through Pig Island Gut to Eastern Bay. The deepest draft vessels presently using the Gut, are 34 lobster boats and 5 seiners which draw up to 4 feet of water. In order to navigate through the Gut without delay, the average boat requires approximately 2 1/2 feet of tide. Since the tide is less than 2 1/2 feet for 3.9 hours of the tide cycle, the average delay is estimate at 0.4 hours per trip. The alternate to waiting for tide, for passage through the Gut, would be to travel the longer route around Little Sheep Island involving travel over an added distance of about 1 3/4 miles. The added time to travel this distance is comparable to the time waiting for the tides for passage through the Gut but with the risk of traveling a more exposed and hazardous route. Considering that the 34 lobster boats and 5 seiners fish on the average of 160 days per year in the Eastern Bay area or make a total of 320 trips, this represents a loss in time of 320 trips x 0.4 hours or 128 hours per boat per year. Operating at an average cost of $2.50/hr. the lobster fleet loses (34 boats x 128 hours x $2.50/hr.) or $10,900 annually. Similarly, the increased cost to the 5 seiners, due to tidal delays is (5 boats x 128 hours x $3.00/hr.) or $1,900. In addition, it is estimated that the U. S. Coast Guard vessel which makes daily round trips from the mainland to

Mistake Island, would benefit in fuel savings in the amount of $200 per year. Since these increased costs due to tidal delays would be entirely eliminated by the proposed improvements, they are considered a direct benefit of the project.

44. The shoal areas in the existing channel, which are bare at low water, cause the smaller boats engaged in the harvesting of marine worms, soft shell clams and Irish moss, an important part of the marine industry of the area, to be delayed. With improvement of the channel the United States Fish and Wildlife Service and the Maine Sea and Shore Fisheries Department estimate that the value of the landings for these products would increase by 10%. The total value of the increased landings of these marine products was estimated at $15,300 annually.

45. It is considered that the benefit to these small boats would be the elimination of tidal delays which would result in added work time. It is considered that 1 1/2 feet of tide would be required to permit these boats to operate. From the tide curve it is estimated that the average tidal delay is 0.25 hours per trip. Based on 320 trips per year for 26 boats the total delay time is 2,080 hours, or about 5% of the estimated total fishing time. On this basis it is considered that an increase of 5% in landing of marine products by these vessels is reasonable. Operating at a net profit of 40 percent of the gross value of the increase harvest, the benefit to the small boats would be ($153,000 x .05 x 0.4) $3,060.

46. Because of the overcrowded condition in the Federal anchorage at Beals Harbor and the lack of sufficient berthing areas along the shore, there are 40 lobster and smaller craft forced to moor in unprotected areas in and around Pig Island Gut. Local interests stated that in the past 10 years at least 3 boats were lost because of these conditions. At the hearing, fishermen complained of damage to their vessels when winds swept their craft about in shallow waters. It is estimated that annual damages to fishing vessels amount to $1,000.

47. A summary of benefits and costs from the proposed project is as follows:

Summary of Benefits

Increased lobster catch	$11,200
Elimination of tidal delays	12,800
Increased catch of other marine life	3,060
Reduction in boat damage	1,000
	$28,060

Summary of Estimated Costs

Federal Cost	
Corps of Engineers	$190,000
Coast Guard	1,100
Required Non-Federal Costs	
Public Landing (self-liquidating)	5,000
Total Federal and Required Non-Federal Costs	$196,100

COMPARISON OF BENEFITS AND COSTS

48. A comparison of the estimate total benefits evaluated at $28,060 and the annual costs of $12,760 results in a benefit-cost ratio of 2.2 to 1.

PROPOSED LOCAL COOPERATION

49. Since the benefits to be derived from the improvements at Pig Island Gut are entirely general in character, it is considered that no local cash contribution toward the first cost of construction should be required. However, local interests should be required to provide, without cost to the United States, all necessary lands, easements, and rights-of-way need for the construction and maintenance of the project; hold and save the United States free from damages that may result from construction of the project; and provide and maintain without cost to the United States an adequate public landing, with commensurate depth, open to all on equal terms. Since Federal expenditure for a project approved under Section 107 of the 1960 River and Harbor Act is limited to $200,000, local interests should be required to make a cash contribution for all costs in excess of this Federal limit to insure that expenditure of Federal funds will result in a complete and effective project. Local interests have provided reasonable assurance that the requirements of local cooperation will be met.

COORDINATION WITH OTHER AGENCIES

50. All Federal, State and local agencies having interest in the improvement at Pig Island Gut were notified of the public hearing held in Beals, Maine. The U. S. Fish and Wildlife, the U. S. Coast Guard, the State of Maine, the town of Beals and other local interests have been consulted during the study. Comments made by the U. S. Fish and Wildlife Service are contained in Appendix A of this report. The comments

of the State of Maine Port Authority and the Town of Beals are contained in Appendix B.

SCHEDULE FOR DESIGN AND CONSTRUCTION

51. It is estimate that preparation of contract plans and specifications for the project will require 4 months. The estimate cost is $5,000. Construction of the project can be accomplished under a single contract to be completed in a 3 month period. Expenditures are as follows:

a. Allocated to Date:

Reconnaissance report	$ 1,700
Detailed Project Report	14,300

b. Required to Complete:

Plans and Specifications	5,000
Construction, Engineering during Construction, Supervision and Administration	169,000
TOTAL COST (Corps of Engineers)	$190,000

OPERATION AND MAINTENANCE

52. Maintenance of the improvement will be the responsibility of the United States. The proposed plan of improvement is aligned as near the natural channel as practical from a navigation viewpoint. It is estimate that a shoaling rate of two tenths of a foot per/year may result. On this basis it is estimated that maintenance would be required every 10 years involving the removal of 30,000 cubic yards or 3,000 cubic yards per year. The average annual cost of maintenance is estimated at $5,200.

CONCLUSIONS

53. The needs of present and prospective commercial navigation at Pig Island Gut would be satisfied by provision of (a) a channel 60 feet wide, 6 feet deep from Alley Bay to Eastern Bay through Pig Alley Gut, and (b) a 5 1/2 acre anchorage 6 feet deep, inside the Gut. The resulting benefits to the commercial fishing fleet are sufficient to warrant

Federal improvements. Local interests have indicated that the improvement meets their needs and are willing and able to meet the requirements of local cooperation. All agencies known to have interest have been consulted and have expressed no objection to the improvement.

RECOMMENDATION

54. The Division Engineer recommends that a Federal navigation project at Pig Island Gut, Beals, Maine be authorized by the Chief of Engineers under the provisions of Section 107 of the River and Harbor Act of 1960, to provide a channel 60 feet wide, 6 feet deep, from Alley Bay to Eastern Bay through Pig Alley Gut, and a 5 1/2 acre anchorage, 6 feet deep, inside the Gut. The total Federal project cost is estimated at $191,100, including $1,100 for aids to navigation. Annual maintenance costs are estimated at $5,200. This recommendation is made subject to the condition that local interests:

a. Assume full responsibility for all project costs in excess of the $200,000 Federal limitation under Section 107 of the 1960 River and Harbor Act, if found necessary to provide a complete project;

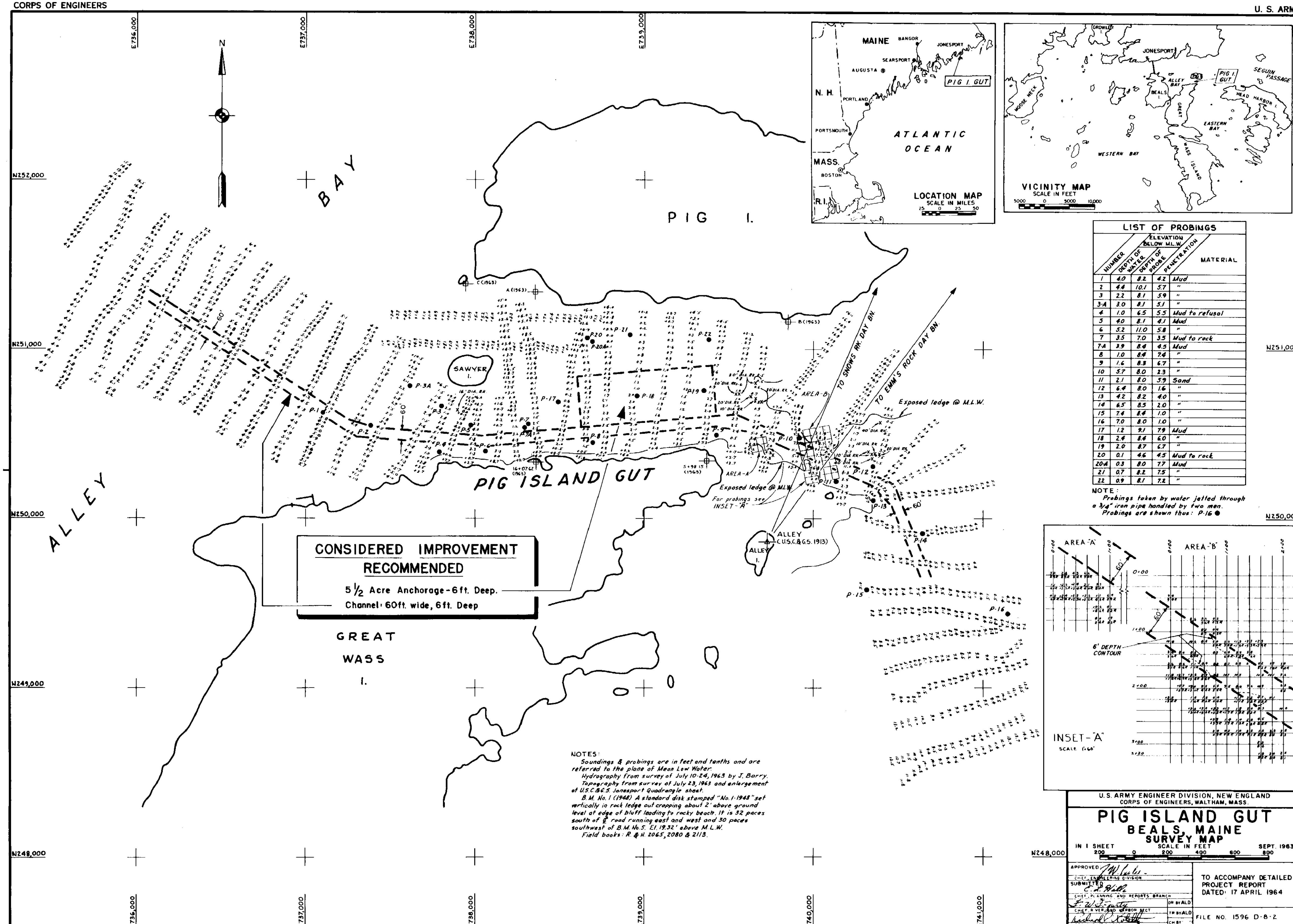
b. Provide without cost to the United States all necessary lands, easements and rights-of-way needed for the construction and maintenance of the project;

c. Hold and save the United States free from damages that may result from construction and maintenance of the project; and

d. Provide and maintain without cost to the United States, an adequate public landing on Great Wass Island in the vicinity of the anchorage, open to all on equal terms.

1 Incl
Map

CORPS OF ENGINEERS U. S. ARMY



LIST OF PROBINGS

NUMBER	DEPTH OF WATER	DEPTH OF PROBE	PENETRATION	MATERIAL
	ELEVATION BELOW M.L.W.			
1	4.0	8.2	4.2	Mud
2	4.4	10.1	5.7	"
3	2.2	8.1	5.9	"
3-A	3.0	8.1	5.1	"
4	1.0	6.5	5.5	Mud to refusal
5	4.0	8.1	4.1	Mud
6	5.2	11.0	5.8	"
7	3.5	7.0	3.5	Mud to rock
7-A	3.9	8.4	4.5	Mud
8	1.0	8.4	7.4	"
9	1.6	8.3	6.7	"
10	5.7	8.0	2.3	"
11	2.1	8.0	5.9	Sand
12	6.4	8.0	1.6	"
13	4.2	8.2	4.0	"
14	6.5	8.5	2.0	"
15	7.4	8.4	1.0	"
16	7.0	8.0	1.0	"
17	1.2	9.1	7.9	Mud
18	2.4	8.4	6.0	"
19	2.0	8.7	6.7	"
20	0.1	4.6	4.5	Mud to rock
20-A	0.3	8.0	7.7	Mud
21	0.7	8.2	7.5	"
22	0.9	8.1	7.2	"

NOTE:
Probings taken by water jetted through a 3/4" iron pipe handled by two men.
Probings are shown thus: P-16 ●

NOTES:
Soundings & probings are in feet and tenths and are referred to the plane of Mean Low Water.
Hydrography from survey of July 10-24, 1963 by J. Barry.
Topography from survey of July 23, 1963 and enlargement of U.S.C.&G.S. Jonesport Quadrangle sheet.
B.M. No. 1 (1948) A standard disk stamped "No. 1-1948" set vertically in rock ledge out cropping about 2' above ground level at edge of bluff leading to rocky beach. It is 32 paces south of ℄ road running east and west and 30 paces southwest of B.M. No. 5. El. 19.32' above M.L.W.
Field books: R. & H. 2065, 2080 & 2113.

U.S. ARMY ENGINEER DIVISION, NEW ENGLAND
CORPS OF ENGINEERS, WALTHAM, MASS.

PIG ISLAND GUT
BEALS, MAINE
SURVEY MAP

IN 1 SHEET — SCALE IN FEET 200 0 200 400 600 800 — SEPT. 1963

APPROVED: J. W. [signature] — CHIEF, ENGINEERING DIVISION
SUBMITTED: E. L. [signature] — CHIEF, PLANNING AND REPORTS BRANCH
F. W. Fogarty — CHIEF, RIVER AND HARBOR SECT — DR BY ALD
Richard [signature] — PROJECT ENGINEER — TR BY ALD — CH BY

TO ACCOMPANY DETAILED PROJECT REPORT DATED: 17 APRIL 1964

FILE NO. 1596 D-8-2

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
59 Temple Place
Boston, Massachusetts 02111

April 13, 1964

APPENDIX A

Division Engineer
New England Division
U. S. Army Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

Dear Sir:

This is our conservation and development report on your plan for navigation improvements at Pig Island Gut, Beals, Washington County, Maine. Authorization for this project is contained in Public Law 86-645, Section 107. Our report was prepared under authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-666 inc.), in cooperation with the Maine Department of Sea and Shore Fisheries. It has the concurrence of that agency as indicated in its letter of March 18, 1964.

We understand that the plan of improvement consists of dredging a channel 60 feet wide, 6 feet deep through Pig Island Gut from Moosabec Reach to Eastern Bay, and a 5-1/2-acre anchorage 6 feet deep inside the Gut. All materials removed would be scowed to sea and deposited on approved dumping grounds.

There are no significant fish or wildlife resources in Pig Island Gut which would be adversely affected by the project works. Sea scallop and soft-shelled clam resources exist in Moosabec Reach but the project would have no significant effect on these resources. The four lobster pounds in the vicinity of the project would not be affected by dredging activity.

The spoil disposal plan tentatively lists two suggested disposal areas at sea, either of which would be satisfactory from a fish and wildlife viewpoint. These are: (1) an area the center of which is about 1,000 yards due east of Mark Island, and (2) an area the center of which is about 1,500 yards due east of Moose Peak Light on Mistake Island.

The navigation improvement being considered would reduce damages to vessels, decrease tidal delays, provide needed anchorage facilities, and provide a shorter, safer passage to offshore waters. About 160,000 pounds of lobsters are landed annually in the Alley Bay area, primarily by the 34 standard lobster boats. An additional, insignificant catch is made by a few of the dory-size lobster boats. It is estimated that lobster landings will increase

by about 56,000 pounds annually, having an ex-vessel value of $28,000. Marine-worm production is expected to increase in value about $6,000; soft-shelled clam landings also are expected to increase, valued at $6,000. Herring seiners and carriers, weirmen, and groundfishermen will benefit from the shorter, safer passage to offshore waters, but this will not result in a measurable increase in landings. It is expected that the value of the Irish moss harvest will be increased by $2,700.

There is no significant sport fishery in the project area. Waterfowl values associated with the project are not significant.

We have no objection to the project as presently contemplated; however, if other spoil disposal sites are selected it is requested that you advise us of this fact so we can determine what, if any, effect the spoiling would have on fish and wildlife resources. Spoil should not be deposited in the northwestern part of Eastern Bay between Great Wass Island and Spectacle Island because of the important lobster fishery and weir fishery in this area.

Sincerely yours,

John S. Gottschalk
Regional Director
Bureau of Sport Fisheries & Wildlife

H. B. Allen
Acting Regional Director
Bureau of Commercial Fisheries

APPENDIX B

(12 March 1964)

Brigadier General P. C. Hyzer, USA
Division Engineer
U. S. Army Engineer Division, New England
Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

Dear General Hyzer:

We have your letter of 11 February 1964 requesting comments on the proposed Federal project for the improvement of Pig Island Gut and a statement as to the willingness of the Town of Beals to meet the requirements of local cooperation.

The plan of improvement as outlined to us by representatives of your office and detailed in your letter would adequately meet the navigation needs of our lobster and fishing fleet. At a meeting held on 4 February 1964 the proposals presented received the endorsement of the Town of Beals representative citizens present.

It is understood that approval and construction of the project would be subject to the following requirements of local cooperation:

(a) Furnish all lands, easements, and rights-of-way which may be needed for construction and maintenance of the project.

(b) Hold and save the United States free from damages which may result from construction and maintenance of the project;

(c) Construct and maintain an adequate public landing with commensurate berth, open to all on equal terms.

Subject to final action by a Town Meeting, the Board of Selectmen consider that the Town of Beals would be willing

to meet the above requirements. It is understood that a legal commitment would not be required until after an improvement is authorized and Federal funds are available.

Sincerely yours,

(signed) Ossie E. Beal

(typed) Ossie E. Beal
First Selectman

APPENDIX B

MAINE PORT AUTHORITY

MAINE STATE PIER • PORTLAND, MAINE 04111 • TEL. 773-5608

A. EDWARD LANGLOIS, JR.
GENERAL MANAGER

February 20, 1964

Brigadier General P.C. Hyzer
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts

Dear General Hyzer:

This will acknowledge your letter of 11 February 1964 relative to the proposed navigation improvement at Pig Island Gut, Beals, Maine.

This is to advise that a representative of the Maine Department of Sea and Shore Fisheries has met with Selectmen of Beals, along with members of the Army Engineers, to review the current status of this project.

It is our understanding, that the people at Beals understand the revised project and the terms of local cooperation. The consensus seems to be that the proposed improvement would meet their needs.

Based on these facts, the proposed project seems very satisfactory and should be most beneficial to the commercial fisheries of the area and, in turn, to the economy of the State of Maine.

Sincerely yours,

MAINE PORT AUTHORITY

Edward Langlois
General Manager

EL/lg

cc: G. Taylor, Sea and Shore
Ossie Beal, Beals, Maine